

YOUNG-AGE BREEDING BY A FEMALE CARNABY'S COCKATOO

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Carnaby's Cockatoo *Calyptorhynchus latirostris* is an endangered species found only in the southwest of Western Australia (WA) (Saunders 1990). It is listed as endangered by both the WA and Commonwealth governments and the subject of a recovery program (Cale 2003). Between 1969 and 1976 one population of this species was studied in detail at Coomallo Creek on the western edge of the northern wheatbelt of WA (Saunders 1982). The population was then monitored at various intervals from 1977 to 1996 (Saunders and Ingram 1998). From 2009, the Coomallo Creek population has been monitored twice each breeding season in September and November following the protocol of Saunders and Ingram (1987). Until the end of 1976 adults and nestlings were individually marked with patagial tags and leg bands. From 1977 until the present, as a result of

detrimental impacts on the cockatoos from the use of patagial tags (Saunders 1988), birds were individually marked with leg bands only. During each visit to the study area, attempts were made to identify all individually marked cockatoos, especially breeding females.

On 11 September 2012 when monitoring the Coomallo Creek breeding population, we observed an adult female and adult male Carnaby's Cockatoo displaying behaviour associated with prospecting for a breeding hollow, preparing the hollow and mating. The female was banded on the right leg and we watched the two birds for nearly two and a half hours as many photographs were taken of the female in order to establish her identity using the technique for reading band numbers explained by Saunders *et al.* (2011). We first saw the birds at 0820, when the female was inspecting a tree

hollow. The male was sitting on a branch near the entrance to the hollow. The female then led the male to a dead tree about 200 metres away in which there was a hollow. She spent nearly an hour going in and out of the hollow, spending much of the time in the hollow. The male sat on a branch near the entrance. When she emerged from the hollow he gave *Ah-Ah* and *Squeak* breeding displays as described by Saunders (1974, 1979). At 1010 the female and male copulated, with the male mounted for approximately 90 seconds. During attempts to photograph the female's leg band, the bird's underside was clearly displayed in many of the over 300 photographs taken before the band number could be clearly seen. Photographs taken before and after mating revealed that the female's cloaca was swollen and moist immediately following copulation. After mating the female resumed investigating hollows. In the period we observed the birds, the female investigated three potential hollows over a distance of 700m.

During the two and a half hours that we observed the birds they displayed behaviour typical of a mated pair preparing to breed (Saunders 1982). Throughout that period they showed no signs of being disturbed by our presence. Carnaby's Cockatoos have bred in this part of the property in the past. The birds were investigating hollows around farm sheds and a

farm track where people are commonly seen. The female (band number 320-00-828) was three years old, having been banded as a nestling on 11 November 2009 in a hollow 900m north-east of where she was photographed.

Saunders and Ingram (1998) summarised results of the study of the Coomallo Creek population up to 1996. From 1969 to 1996, 16 females banded as nestlings in the study area were known to have returned to breed there. Six were four years old, four were five, two were six, two were seven, and one each were eight and eleven. Those females first recorded at Coomallo Creek more than four years old may have been breeding before that, but were not seen. One of the seven year old females had been seen in the area when she was four, but was not seen at a nest site. On the basis of these results, it has been assumed that female Carnaby's Cockatoo do not breed until their fourth year. However, the behaviour of female 320-00-828 and the accompanying male is consistent with a breeding attempt and it is possible that females may be sexually mature and capable of breeding earlier than their fourth year.

We are not aware of any records of Carnaby's Cockatoo in captivity that shed any light on the age of first breeding in this species.

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